

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	579	printed adj circuit adj board and hot adj pressing	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55
2	L2	33344	copper adj foil	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55
3	L3	176	1 and 2	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55

	L #	Hits	Search Text	DBs	Time Stamp
4	L4	138	temperature and 3	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55
5	L5	4	s-hte	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55
6	L6	127	mitsui adj mining adj smelting	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:55

	L #	Hits	Search Text	DBs	Time Stamp
7	L7	26	2 and 6	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 08:56
8	L8	9	(("6649274") or ("20010008091") or ("5674611") or ("6479170") or ("5679230")).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 09:59
9	L9	0	WO0134879	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 09:19

	L #	Hits	Search Text	DBs	Time Stamp
10	L11	1	WO01/34879	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 09:19
11	L12	16	WO and 6	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 09:19
12	L13	2	("4937133" "5153050").PN.	US- PGPUB; USPAT; USOCR	2005/06/06 09:28
13	L14	1	("6649274").URPN.	USPAT	2005/06/06 09:33
14	L15	2	("5583320").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 09:33

	L #	Hits	Search Text	DBs	Time Stamp
18	L19	54	shte	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:00
19	L20	0	18 and 19	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:00
20	L21	0	18 and 6	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:00

	L #	Hits	Search Text	DBs	Time Stamp
21	L22	9	18 and 2	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:21
22	L23	1	18 and ("copper clad laminate" or "copper clad laminated" or "copper clad laminating")	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:22
23	L24	24941	"hot pressing"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:22

	L #	Hits	Search Text	DBs	Time Stamp
24	L25	1	18 and 24	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:23
25	L26	88	18 and (press or pressing or pressed) and (copper or Cu) and temperature	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:23
26	L27	60	26 and ((@ad<"20000825") or (@rlad<"20000825"))	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:32

	L #	Hits	Search Text	DBs	Time Stamp
27	L28	40	"copper foil" near4 recrystalliz\$6	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 10:33

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	2	("5674611").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 14:02
2	L2	2	("5679230").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 14:05
3	L3	2	("5583320").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 14:55

	L #	Hits	Search Text	DBs	Time Stamp
4	L4	6639	((257/762) or (257/758) or (257/700) or (257/701)).CCLS.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 14:56
5	L5	244	4 and (copper adj foil)	US- PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TD B	2005/06/06 14:57

US-PAT-NO: 4528833

DOCUMENT-IDENTIFIER: US 4528833 A

TITLE: Method for removal of curling of circuit
printable flexible substrate

----- KWIC -----

Detailed Description Text - DETX (25):

Also preferred are an electrolytic copper foil or a rolled copper foil being subjected to an annealing and recrystallizing process. The annealing and recrystallizing process can be carried out by heating a rolled copper foil to 200.degree.-400.degree. C. for 10-60 min. or heating an electrolytic copper foil to at 450.degree.-600.degree. C. for 30-60 min. Particularly preferred is a rolled copper foil annealed and recrystallized, because the process for annealing and recrystallizing the rolled copper foil can be done at a relatively low temperature. Accordingly, the annealing and recrystallizing process can be applied to a rolled copper foil in a process for the preparation of the aromatic polyamideimide or polyimide film on the foil.

Detailed Description Text - DETX (91):

The substrate was further heated to 300.degree. C. for 12 hours so as to have the copper foil annealed and recrystallized.

PAT-NO: JP02002067221A
DOCUMENT-IDENTIFIER: JP 2002067221 A
TITLE: COPPER CLAD LAMINATED SHEET
PUBN-DATE: March 5, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
YAMAMOTO, TAKUYA	N/A
NAGATANI, SEIJI	N/A
NAKANO, MASAHIKO	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
mitsui mining & smelting co ltd	N/A

APPL-NO: JP2000255490

APPL-DATE: August 25, 2000

INT-CL (IPC): B32B015/08, H05K001/09 , H05K003/00

ABSTRACT:

PROBLEM TO BE SOLVED: To reduce the warpage problem in a double-side copper clad laminated sheet having copper foils different in thickness laminated to both surfaces thereof to enhance the production efficiency of a printed wiring board.

SOLUTION: In the double side copper clad laminated sheet having copper foils different in thickness laminated to both surfaces thereof, a first copper foil, which is not recrystallized by hot processing at the time of the production of a copper clad laminated sheet, is used on a single surface side and a second copper foil having recrystallizing properties by hot processing at the time of

the production of a copper clad laminated sheet is used on other
surface side
and the thickness of the second copper foil is larger than that of
the first
copper foil.

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PAT-NO: JP02001262296A

DOCUMENT-IDENTIFIER: JP 2001262296 A

TITLE: ROLLED COPPER FOIL AND ITS MANUFACTURING
PROCESS

----- KWIC -----

Abstract Text - FPAR (1):

PROBLEM TO BE SOLVED: To provide a manufacturing process capable
of greatly
developing a cubic texture independently of the thickness of a copper
foil when
recrystallization annealing is performed.

PAT-NO: JP02001262296A
DOCUMENT-IDENTIFIER: JP 2001262296 A
TITLE: ROLLED COPPER FOIL AND ITS MANUFACTURING
PROCESS
PUBN-DATE: September 26, 2001

INVENTOR-INFORMATION:

NAME	COUNTRY
KUROSAWA, YOSHIO	N/A
HATANO, TAKATSUGU	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
NIPPON MINING & METALS CO LTD	N/A

APPL-NO: JP2000075470

APPL-DATE: March 17, 2000

INT-CL (IPC): C22F001/08, B21B001/40 , B21B003/00 , C22C009/00 ,
C22F001/00

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a manufacturing process capable of greatly developing a cubic texture independently of the thickness of a copper foil when recrystallization annealing is performed.

SOLUTION: The rolled copper foil can be obtained by applying hot rolling to an ingot of tough pitch copper or oxygen-free copper, repeating cold rolling and annealing, and finally carrying out finishing to ≤ 0.050 mm thickness by cold rolling. In the method for manufacturing the rolled copper foil where a cubic texture is extremely developed with recrystallization annealing is applied, the following steps are successively carried out: (1) cold

rolling at
≥90% draft; (2) recrystallization annealing at 150-250°C
furnace
temperature for 1-10h or recrystallization annealing at 500-800°C
furnace
temperature for 5-60 s; and cold rolling at 5-40% draft.

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PAT-NO: JP408283886A
DOCUMENT-IDENTIFIER: JP 08283886 A
TITLE: ELECTROLYTIC COPPER FOIL FOR FLEXIBLE WIRING
BOARD
PUBN-DATE: October 29, 1996

INVENTOR-INFORMATION:

NAME

SUZUKI, AKITOSHI
OTSUKA, HIDEO
FUKUDA, SHIN
SAITO, TSUTOMU

ASSIGNEE-INFORMATION:

NAME

FURUKAWA CIRCUIT FOIL KK

COUNTRY

N/A

APPL-NO: JP07107098

APPL-DATE: April 7, 1995

INT-CL (IPC): C22C009/00, C22F001/08 , H05K001/03 , H05K001/09

ABSTRACT:

PURPOSE: To produce copper foil which has excellent elongatability and flexing resistance at ordinary and elevated temps. and is recrystallizable at a low temp. by suppressing the carbon content in the copper foil produced by an electrolytic method to a specific value or below and heat treating the copper foil at a specific temp.

CONSTITUTION: A Ti drum-shaped cathode 2 is arranged in a concentrical Pb anode 1 on the outer side. An electrolyte 3 contg. proper amts. of copper, sulfuric acid, chlorine ions and org. matter, such as hydrolyzed glue is put

into an electrolytic cell in which the anode is formed. While the drum-shaped cathode 2 is kept rotated, current is supplied between the anode 1 and the cathode 2 to electrolytically deposit copper on the surface of the drum-shaped cathode 2. The copper is taken up as the copper foil 4. In such a case, the carbon content in the copper foil 4 is confined to ≤ 18 ppm by controlling the amt. of the glue as the org. matter in the electrolyte 3. The resulted copper foil 4 is heat treated at 100 to 300 $^{\circ}$ C in a gaseous nitrogen atmosphere. The copper foil which is recrystallizable at a low temp. of about 120 $^{\circ}$ C, has the excellent performance compared with the conventional rolled copper foil and has the broad width hardly producible from the rolled copper foil is thus stably and inexpensively produced.

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